EE 491 Weekly Report May15-27 Week 13 (12/01/14 –12/07/14)

Advisors: Dr. Jones, Dr. Elia

Team Members:

Alberto Di Martino * Team Co-Web *
Dylan Gransee * Webmaster *
Robert Larsen * Team Leader *
Ian McInerney * Team Key Concept Holder *
Aaron Pederson * Team Communications *
Rohit Zambre * Team Secretary *
Fengxing Zhu * Team Comm. Co-leader *

Work Hour Totals:

Team Member	Weekly Hours	Running Total
Aaron	12.50	118.00
Alberto	12.50	109.00
Dylan	7.50	127.50
Fengxing	7.50	86.50
Ian	11.50	110.00
Robert	4.50	109.50
Rohit	12.50	100.50

Weekly Summary

- This week we successfully transferred the Ground Station to new simpler code. We are also getting closer to having Eris software compiling on a different computer than before.

Pending Issues:

1. Various blockers are being hit when migrating Eris codebase to a new PC
2. Finalizing tasks before the semester ends

Next week goals:

Aaron:

- Improve the code and optimize it for expansions and adding the 2nd degree of freedom (roll)

Alberto:

- Improve the code and optimize it for expansions and adding the 2nd degree of freedom (roll)

Dylan:

- Continue migrating the Eris system to a new computer – ran into an issue, but think the solution is close

Fengxing:

- Continue working on the 2-d model of the inverted pendulum

Ian:

- Work with MicroCART team to measure the final motor constants
- Help Feng with the 2-d model

Robert:

- Assist Dylan with the migrating of Eris codebase
- Work on implementing the PID loop on the Eris system

Rohit:

- Streamline data analysis and make it expandable before the semester ends

Individual Contributions:

Aaron:

- Team Meeting + Looked at Code(1.5 hr)
- Build new Groundstation SW (4 hr)
- Continued building and started tuning PD (4 hr)
- Fixed bugs. Fine-tuned PID (3 hr)

Alberto:

- Team Meeting + Looked at Code(1.5 hr)
- Build new Groundstation SW (4 hr)
- Continued building and started tuning PD (4 hr)
- Fixed bugs. Fine-tuned PID (3 hr)

Dylan:

- Team Meeting with advisors (1.5 hr)
- Worked on porting Eris over to new computer (3 hr.)
- Team meeting + Worked on porting Eris some more (3 hr)

Fengxing:

- Team meeting (.5 hr)
- Modified the Matlab scripts +aid with 1-D system (4 hr)
- Team meeting + Aid with Tunning 1-D system (3 hr)

Ian:

- Advised MicroCART on circuit board layouts + Worked through possible analysis for friction data + Experimented with PD controller design (3.5 hr)
- Implemented numerical analysis to determine the coefficient of friction (1.5 hr)

- Assisted Microcart + Measured motor constants (3 hr)
- Team Meeting with advisors (2 hr)
- Team meeting + Assisted GUI software with debugging + Assisted Eris with debugging (2 hr)

Robert:

- Team Meeting with advisors (1.5 hr)
- Team meeting (3 hr)

Rohit:

- Team meeting with advisors (1 hr)
- Design logging system + aid with tuning 1-d system(2.50 hr)
- Log data in simple PID program (2) + Fine tune the inverted pendulum (3) + Expand logging system (2) + Made presentation (2)

Meeting Notes:

Date: 12/04/2014

Author: Rohit Zambre

Duration: 1 hour

Members Present: All

Advisors Present: All

Meeting minutes

12-04-2014:

Grond Robot

-- Problems with adding the camera system (VPRN) to Eris.

Makefile issues

Some libraries used to make Makefiles are outdated

-- Try to use current communication setup

-- Try to use the route through the router first since it is close to working

-- Now need to look at integrating PID code to the ground robot

Fengxing

-- Almost ready to build the model for the 2-d inverted pendulum system

-- Very familiar with Matt's thesis and developed a good understanding

-- Need to build a model with inverted pendulum along with motors ultimately

-- Need to also incorporate the ground robot behavior to the current models

We currently have the model for the 1-D pendulum system with the quad copter on top.

Need to squeeze the details of the software to have it close to the Simulink Model

-- Need to look into the VHDL code as well

-- Need to make a system flow diagram of the whole software to locate the constants being added to the performance of the software

Create a more automated MATLAB script to log data.

-- Easy to use

-- More representable data

-- save variables that are being logged so that they can be plotted later